

**REMARKS**

In the December 17, 2008 Office Action, all of the claims stand rejected in view of prior art. No other objections or rejections were made in the Office Action.

***Status of Claims and Amendments***

In response to the December 17, 2008 Office Action, Applicant has amended claim 1, and cancelled claims 2 and 10, as indicated above. Specifically, claim 1 has been amended to include the subject matter of both dependent claims 2 and 10. Thus, claims 1, and 3-9 are pending, with claim 1 being the only independent claims. Reexamination and reconsideration of the pending claims are respectfully requested in view of above amendments and the following comments.

***Entry of October 31, 2008 Amendment***

In paragraph 1 of the Office Action, the Office Action indicates that Applicant's October 31, 2008 Amendment, which introduced new claim 10, has been entered.

***Rejections - 35 U.S.C. § 102***

In paragraph 3 of the Office Action, claims 1-3 and 6-9 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,245,182 (Nakamura et al.). In response, Applicant has amended independent claim 1 to clearly define the present invention over the prior art of record. Specifically, claim 1 has been amended to include the subject matter of dependent claims 2 and 10.

In particular, independent claim 1 has been amended to recite a thermosetting and active energy ray curable resin composition that requires *a polymer that is a reaction product*

*of the addition of a monocarboxylic acid having an unsaturated double bond to a polymer having an epoxy group, and a heat-curing agent that is a heat-curing agent other than a compound containing one or more isocyanate groups.*

Clearly, this combination of elements is *not* disclosed or suggested by the Nakamura et al. patent or any other prior art of record. For example, the Office Action acknowledged that the subject matter of claim 10 (now incorporated into independent claim 1) is not anticipated by the Nakamura et al. patent (claim 10 was not rejected under 35 USC § 102 in the Office Action). It is well settled under U.S. patent law that for a reference to anticipate a claim, the reference must disclose each and every element of the claim within the reference. Therefore, Applicant respectfully submit that independent claim 1, as now amended, is not anticipated by the prior art of record. Withdrawal of this rejection is respectfully requested.

Moreover, Applicant believes that the dependent claims 3 and 6-9 are also allowable over the prior art of record in that they depend from independent claim 1, and therefore are allowable for the reasons stated above. Also, the dependent claims 3 and 6-9 are further allowable because they include additional limitations. Thus, Applicant believes that since the prior art of record does not anticipate the independent claim 1, neither does the prior art anticipate the dependent claims.

Applicant respectfully requests withdrawal of the rejections.

*Rejections - 35 U.S.C. § 103*

In paragraph 6 of the Office Action, claims 4, 5 and 10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Nakamura et al. patent in view of U.S. Patent No. 4,837,274 (Kawakubo et al.). In response, Applicant has amended independent claim 1 to

include the subject matter of both dependent claims 2 and 10, as mentioned above.

Consequently, claim 10 has been cancelled.

More specifically, independent claim 1 now clearly recite that a thermosetting and active energy ray curable resin composition requires *a polymer that is a reaction product of the addition of a monocarboxylic acid having an unsaturated double bond to a polymer having an epoxy group, and a heat-curing agent that is a heat-curing agent other than a compound containing one or more isocyanate groups.*

This arrangement is *not* disclosed or suggested by the Nakamura et al. patent, the Kawakubo et al. patent or any other prior art of record. Further, as discussed below, both the Nakamura et al. patent and the Kawakubo et al. patent teach away from the claimed invention.

The Nakamura et al. patent specifically teaches a protecting printed layer formed from a resin comprising a specific reaction product in order to obtain a transfer material that has excellent in abrasion resistance and chemical resistance with little or no cracking. The specific reaction product here, i.e. resin, is a polymer with *polyfunctional isocyanate* having a urethane bond amount of from 6000 to 50000 g/eg *as a requisite parameter*. It is well known that reactions with isocyanate compounds typically produce urethane bonds. The resin of the Nakamura et al. is an addition polymerization product of the polymer and a polyfunctional *isocyanate*.

Amended independent claim 1 now requires a heat-curing agent *other than a compound containing one or more isocyanate groups*. In other words, the claimed invention excludes the use of isocyanate groups.

Further, if the polymer of the Nakamura et al. patent were combined with a heat-curing agent that is *not a polyfunctional isocyanate*, the required urethane bond amount of

from 6000 to 50000 g/eg, which is an important parameter as a resin in the Nakamura et al. patent, cannot be realized. In the Nakamura et al. patent, the urethane bond is formed by the reaction of an isocyanate group with an epoxy group. In other words, the teachings of the Nakamura et al. patent require an isocyanate containing compound in order to have a urethane bond amount in the range of the Nakamura et al. patent (see column 6, lines 56-69 and column 7 line 57 through column 8 line 12). Consequently, it is not obvious to those skilled in the art to combine a polymer with a heat-curing agent comprising other than isocyanate, based upon the teachings of the Nakamura et al. patent.

At paragraph 6 (b) of the Office Action (page 5), the Office Action alleges that the Kawakubo et al. patent discloses a curing agent that has no isocyanate group. This allegation is contradicted at column 5 lines 5-13 and at column 10, lines 26-32 where polyisocyanate compounds and isocyanate groups are included.

Further, the specific polymer taught in the Kawakubo et al. patent is an elastomer, not a thermosetting polymer, as in the claimed invention. The elastomer of the Kawakubo et al. patent requires a reactive silicon functional group within its molecule as a prerequisite, and the polymer taught in the Kawakubo et al. patent totally differs from the polymer of the claimed invention.

Further, the cross-linking agent of the polymer of the Kawakubo et al. patent is totally different from that of the claimed invention. It would not be not obvious to one skilled in the art to use the cross-linking agent of the Kawakubo et al. patent in place of the polyfunctional isocyanate of the Nakamura et al. patent because a urethane bond is not formed by the reaction of a silane coupling agent with the elastomer of the Kawakubo et al. patent. Only a siloxane bond is formed by the reaction. Since the Nakamura et al. patent requires urethane

bonds, there is no reason to combine the Kawakubo et al. patent with the Nakamura et al. patent because such a combination would destroy the teachings of the Nakamura et al. patent.

As the structure of the polymer to be reacted, the type of the bond and the property of the reaction product of the Kawakubo et al. patent are completely different from those of the claimed invention, there is no motivation to use the agent of the Kawakubo et al. patent in place of the polyfunctional isocyanate of the Nakamura et al. patent. Therefore, Applicant respectfully asserts that the claimed invention is not obvious over the cited prior art.

Examples 7 and 8, represented in Table 1 on page 26 of the present application, have virtually no urethane bonds because the *heat-curing agent that is a heat-curing agent other than a compound containing one or more isocyanate groups*. Examples 7 and 8 correspond to embodiments of the claimed invention. Examples 7 and 8 have a long work life of 24 hours or more.

On the other hand, Comparative Example 5, where a polyfunctional isocyanate is used (and urethane bonds are present), has a very short work life of no more than 8 hours. The difference between Comparative Example 5 and Examples 7 and 8 shows clearly that when polyfunctional isocyanate is excluded from formulations of the claimed invention, it is possible to realize distribution of transfer materials without over curing. That is, it is possible to keep transfer materials in an optimal condition until applied to molded materials. Therefore, the transfer materials, without over curing and without a decline in quality without polyfunctional isocyanate can be used, and thereby it is possible to avoid the occurrence of cracks at curved faces of molded articles.

Since both the Nakamura et al. patent and the Kawakubo et al. patent specifically teach the use of isocyanate and/or polyfunctional isocyanate, a person of ordinary skill in the

art would have no reason to combine the Nakamura et al. patent and the Kawakubo et al. patent.

Under U.S. patent law, the mere fact that the prior art can be modified does *not* make the modification obvious, unless an *apparent reason* exists based on evidence in the record or scientific reasoning for one of ordinary skill in the art to make the modification. See, KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727, 1741 (2007). The KSR Court noted that obviousness cannot be proven merely by showing that the elements of a claimed device were known in the prior art; it must be shown that those of ordinary skill in the art would have had some “apparent reason to combine the known elements in the fashion claimed.” Id. at 1741. The current record lacks any apparent reason, suggestion or expectation of success for combining the patents to create Applicants’ unique arrangement of a resin compound.

Moreover, Applicant believe that dependent claims 4 and 5 are also allowable over the prior art of record in that they depend from independent claim 1, and therefore are allowable for the reasons stated above. Also, the dependent claims 4 and 5 are further allowable because they include additional limitations. Thus, Applicant believe that since the prior art of record does not disclose or suggest the invention as set forth in independent claim 1, the prior art of record also fails to disclose or suggest the inventions as set forth in the dependent claims.

Therefore, Applicant respectfully request that this rejection be withdrawn in view of the above comments and amendments.

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Appl. No. 10/533,137  
Amendment dated March 10, 2009  
Reply to Office Action of December 17, 2008

In view of the foregoing amendment and comments, Applicant respectfully asserts that claims 1 and 3-9 are now in condition for allowance. Reexamination and reconsideration of the pending claims are respectfully requested.

Respectfully submitted,

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